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FEDERAL COMMUNICATIONS COMMISSION
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20 October 1992

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OCT 21 1992
Federal Communications Commission
Office of the Secretary

Office of the Secretary
Federal Communications Commission
Room 222
1919 M St., N. W.
Washington, DC 20554

Enclosed are the comments of the American Electronics Association, on Docket 92-152. An original and nine copies are included.

Sincerely,

David M. Hanttula

David M. Hanttula
Chairman
Standards Task Force
American Electronics Association

reply to:
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MS 3U 946
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Mountain View, CA
94039

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List A B C D E

Before the
Federal Communications Commission
Washington, DC 20554

In the matter of

Revision of Part 15 of the Rules to harmonize the standards for digital devices with international standards.	))))	Notice of Proposed Rulemaking; request for comments. Docket No. 92-152

Comments
of
the

American Electronics Association
1225 Eye Street, N.W.
Suite 150
Washington, D.C. 20005

19 October 1992

Before the
Federal Communications Commission
Washington, DC 20554

In the matter of

Revision of Part 15 of the Rules to harmonize the standards for digital devices with international standards.	))))	Notice of Proposed Rulemaking; request for comments. Docket No. 92-152

The American Electronics Association, (AEA), pursuant to the FCC's Notice of Proposed Rulemaking, request for comments ("Notice"), released on July 30, 1992, hereby submits its Comments in the above-captioned matter.

Originally established in 1943, the AEA currently represents over 3000 corporations engaged in the manufacture and sale of electronic products and related services throughout the world. While the AEA has many large manufacturers with international facilities, 70 per cent are small to medium sized organizations with less than 250 employees and annual sales of less than $50 million.

These manufacturers are interested in harmonized international standards and technical requirements whenever possible. Several have commented in previous petitions to the Commission requesting harmonization of Part 15 digital device electromagnetic emission limits and test methods with the International Electrotechnical Commission (IEC) Publication 22, *Limits and methods of measurement of radio interference characteristics of information technology equipment* (CISPR 22).

Almost all AEA members market products internationally. Corporations can no longer survive economically by limiting sales to North America. These members usually market one product to the international marketplace. This product is the sum of all world-wide regulatory requirements. Currently, depending on product class, these products must be tested twice, at different separation distances between antenna and equipment under test (EUT) to demonstrate compliance with both FCC limits and those of CISPR 22. This has the effect of doubling the test time, not only for final compliance testing but also during the test and debug phase of the product's development. This is very inefficient and costly for digital device manufacturers and places small manufacturers with limited financial and technical resources at a disadvantage and tends to limit competition with larger foreign manufacturers.

The AEA supports the harmonization of FCC Rules Part 15 digital device emission limits with those of IEC CISPR Publication 22. The FCC's intent to accept compliance with CISPR 22 limits as compliance with the FCC's digital device emission requirements is a sound approach until full harmonization can be achieved.

The AEA recommends that the CISPR 22 AC powerline conducted emission limits be adopted as presently published in the 1985 edition of CISPR Recommendation 22.

The AEA recommends that the CISPR 22 radiated emission limits as published in the 1985 edition be adopted from 30 to 1000 MHz and that above 1000 MHz the FCC Part 15 limits and test methods shall apply.

A summary of FCC Part 15 and CISPR 22 emission limits is attached. Included are composite FCC/CISPR 22 radiated emission limits which utilize the lower of the FCC or CISPR limits in a particular frequency region.. The AEA recommends that the FCC adopt the IEC practice of "rounding off" the numerical value in dBuV/m. This data is presented in the table "Recommended FCC Part 15 International Harmonized limits". Further, the AEA requests that emission limit values be published in FCC Rules as dBuV/m (decibles above one microvolt per meter) for radiated emissions and dBuV for conducted emissions . These units are the internationally accepted units of RF field strength and conducted emissions voltage amplitude and are values of which most emissions test receivers display signal amplitude. It is noted the FCC already accepts these units in compliance test reports. The use of these terms and the rounding off of the decible value will eliminate much confusion as to the actual value of the limit, simplify limit compliance calculations and minimize report preparation errors and time.

Further, to minimize the amount of testing required to demonstrate compliance with such harmonized limits, the CISPR test methods must also be adopted. The AEA recommends that CISPR 22 test methods be adopted for the frequency range of 30 to 1000 MHz. Specifically, we urge that the CISPR 22 test distance of 10 meters for Class B limits be adopted. The primary cause for double testing of products is the present FCC Class B test distance of 3 meters and the CISPR Class B test distance of 10 meters. (It is also noted that the original model for determining FCC emission limits for Class B devices was based on a 10-meter separation between source and receiver). The AEA recommends that present FCC test methods (but at a test distance of 10 meters) be used above 1000 MHz.

The AEA also recommends that the FCC adopt new editions of CISPR 22 and its limits and test methods as these are published by the IEC. This will provde international harmonization limit and test method continuity and minimize confusion for manufacturers and the emc test industry.

The AEA supports the CBEMA recommendation regarding limit relaxation for AC powerline conduted broadand emissions be incorporated into Part 15.

The AEA requests that the Commission act quickly and positively on this subject. This is very popular with manufacturers and there should be no objections to this progressive move. Any request for extension of time for comments should be weighed against the continued cost of double testing to manufacturers. The FCC should adopt a Final Report and Order quickly to maximize test cost savings to manufacturers or, in the interim, adopt an administrative plan to accept CISPR 22 limits and test methods immediately.

Respectfully submitted,

David M. Hanttula, NCE
Chairman
Standards Task Force
American Electronics Association

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Silicon Graphics, Inc. D. M. Hanttula

FCC RULES PART 15 DIGITAL DEVICE LIMITS 10/1/92

CLASS A CONDUCTED LIMITS		CLASS B CONDUCTED LIMITS	
0.45 - 1.705 MHz	60 dBuV	0.45 - 30 MHz	48 dBuV
1.705 - 30	70		

RADIATED LIMITS	CLASS A	CLASS B	
	10 m	3m	10 m*
30 - 88 MHz	39 dBuV/m	40 dBuV/m	29.54 dBuV/m
88 - 216	43.5	43.52	33.06
216 - 960	46.4	46.02	35.56
960 - 1000	49.5	53.98	43.54
above 1000	49.5 ave/69.5 pk	53.98 ave/73.98 pk	43.54 ave/63.54 pk

*extrapolated using a 10.54 dB correction factor for 3 m to 10 m distance change.

CISPR PUBLICATION 22 (1985) LIMITS

CLASS A CONDUCTED LIMITS			CLASS B CONDUCTED LIMITS		
0.15 - 0.5 MHz	79 QP	66 AVE	0.15 - 0.5 MHz	66 - 56 QP	56 - 46 AVE
0.5 - 30	73	60	0.5 - 5	56	46
			5 - 30	60	50

RADIATED LIMITS	CLASS A	CLASS B	
	30 m	10 m**	10 m
30 - 230	30 dBuV/m	39.54 dBuV/m	30 dBuV/m
230 - 1000	37	46.54	37

**extrapolated using 9.54 dB correction factor for 30 m to 10 m distance change

COMPOSITE FCC PART 15/CISPR 22 LIMITS

CONDUCTED: USE LIMITS AS SPECFIED IN CISPR PUBLICATION 22.

RADIATED:	CLASS A	CLASS B
	10 m	10 m
30 - 230 MHz	39.5 dBuV/m	29.5 dBuV/m
230 - 1000	46.5	35.5
above 1000	49.5 ave/69.5 pk	43.5 ave/63.5 pk

RECOMMENDED FCC PART 15 INTERNATIONAL HARMONIZED LIMITS

CONDUCTED: USE LIMITS AS SPECFIED IN CISPR PUBLICATION 22.

RADIATED:	CLASS A	CLASS B
	10 m	10 m
30 - 230 MHz	40 dBuV/m	30 dBuV/m
230 - 1000	47	37
above 1000	50 ave/70 pk	44 ave/64 pk